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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,504	09/30/2003	Chang-Ho Liou	LIOU3009/EM	1665

2292 7590 04/27/2007
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EXAMINER

XIAO, KE

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/27/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/27/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/673,504

Applicant(s)

LIOU, CHANG-HO

Examiner

Ke Xiao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the plurality of upper-lower adjacent division panels" in lines 11-14. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the plurality of left-right adjacent division panels" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's Admitted Prior Art (AAPA) in view of Bowen (US 6,774,868)

Regarding independent **Claim 1**, the AAPA teaches a gate drive device for a display (AAPA, Fig. 2A element 11), the open sequences for a plurality of scan lines in a panel being changed so that open sequences of the plurality of scan lines between two adjacent gate drivers being the same (AAPA, Fig. 2B), the drive device comprising:

- a display panel being divided up into a plurality of division panels (AAPA, Figs. 2A and 2B);

- a plurality of gate drivers being the gate drivers of the plurality of division panels (AAPA, Fig. 2A element 11);

- a plurality of control circuits for connecting the data drivers and the gate drivers of the plurality of division panels (AAPA, Fig. 2A element 20a); and

- a timing control register connected to the plurality of control circuits by a plurality of control lines (AAPA, Pg. 1 paragraph [0002]);

wherein the timing control register is used for controlling the open timings of the scan lines of the plurality of division panel, the scan lines in the joining portions of the plurality of upper-lower adjacent division panels are opened at the same time, and wherein the open timings of the scan lines in the joining portions of the plurality of upper-lower adjacent division panels are the same (AAPA, Fig. 2B).

The AAPA fails to teach that adjacent scan lines timing are the same as claimed. Bowen teaches that adjacent scan lines in the joining portions of the plurality of upper-lower adjacent division panels are opened at the same time, and wherein the open timings of the adjacent scan lines in the joining portions of the plurality of upper-lower

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adjacent division panels are the same (Bowen, Fig. 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to implemented the tiling and opposite scanning system of Bowen in the display device of the AAPA in order to allow for large tiled displays with minimal adverse visual effects (Bowen, Col. 3 lines 1-8, Col. 6 lines 33-49).

Regarding **Claim 3**, the AAPA in view of Bowen further teaches that the open timings of scan lines of the plurality of left-right adjacent division panels are the same (Bowen, Fig. 5).

Regarding **Claim 4**, the AAPA further teaches that the timing control register is used for temporarily storing the image starting signals of the display panel (AAPA, Pg. 1 paragraphs [0002, 0008]).

Regarding **Claim 5**, the AAPA further teaches that the gate drivers are connected to the plurality of scan lines of the display panel for controlling (AAPA, Fig. 2A elements 11 and 13).

Response to Arguments

Applicant's arguments with respect to Claims 1 and 3-5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571) 272-7776. The examiner can be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 18th, 2007 - kx -



SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER